

ABSTRACT OF THE DISCLOSURE

5 A vertical heat exchanger is described, which allows efficient elimination of the gas generated therein and efficient removal of the sludge accumulated therein. The vertical heat exchanger has at least part of one end of a vent pipe formed of an upper tube sheet part (an upper cover part in the case of a spiral heat exchanger) and the other end thereof connected outside the heat exchanger to an
10 immediately adjacent fluid passing port passing the same fluid as the vent and/or at least part of one end of a drain pipe formed of a lower tube sheet part (a lower cover part in the case of a spiral heat exchanger) and the other end thereof connected outside the heat exchanger to an
15 immediately adjacent fluid passing port passing the same fluid as the drain.